I claim:

1. A process for decontamination of microlithographic projection exposure devices with UV light and a fluid, the microlithographic projection exposure devices having optical elements, and at least some of said optical elements, especially their surfaces, being cleanable, the microlithographic projection exposure device having a first UV light source for projection exposure, comprising directing a second UV light source onto at least a portion of said optical elements, especially their surfaces, in intervals between exposures by said first UV light source.

2. The process according to claim 1, comprising employing a relatively broad-band light source with a bandwidth of about 500 nm as said second UV light source.

3. The process according to claim 1, further comprising producing a flow of said fluid directed parallel to said surfaces of optical elements to be cleaned.

4. The process according to claim 3, further comprising branching off said fluid from a normal operation flushing gas supply.

5. The process according to claim 3, further comprising introducing said fluid by deflecting a fluid stream from fluid flow running parallel to an optical axis during a projection exposure operation.

6. The process according to claim 5, further comprising producing said fluid from fluid flow running parallel to said optical axis in normal operation by producing cross-flows by inhomogeneous magnetic or electric fields.

7. The process according to claim 3, further comprising employing fluids with different densities alternately for flushing.

densities alternately for flushing.

8. The process according to claim 4, further comprising producing a supply of flushing fluid from a normal operation fluid supply by increasing said supply and transition from a laminar flow into a turbulent flow.

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9. Process according to claim 3, wherein the fluid comprises ozonic gas.

10. Process according to claim 3, wherein the fluid comprises oxygen gas.

11. A microlithographic projection exposure device comprising:

a first UV light source for the projection exposure, wherein said first light source comprises a DUV excimer laser,

at least a second UV light source for decontamination of optical elements that is switched in alternatively in intervals between exposures by said first UV light source, by which at least a portion of said optical elements is illuminated.

12. The microlithographic projection exposure device according to claim 9, comprising at least one gas supply device for supply of flushing gas when said second UV light source is switched in.

13. The microlithographic projection exposure device according to claim 10, further comprising radial flushing openings arranged radially of an optical axis in said gas supply device for supply of flushing gas, wherein a directed flow over surfaces of optical elements to be cleaned is produced by said radial flushing openings.

14. The microlithographic projection exposure device according to claim 10, further comprising a gas supply device for normal operation provided as said gas supply device, a gas

flow directed parallel to said optical axis being deflected in a direction toward surfaces of optical elements to be cleaned.

15. The microlithographic projection exposure device according to claim 12, further comprising mechanical vanes, pivotable or foldable for deflection, for gas flow diversion.

16. The microlithographic projection exposure device according to claim 12, further comprising inhomogeneous magnetic or electric fields for production of flows transverse of said optical axis.

17. The microlithographic projection exposure device according to claim 12, further comprising a device for increasing gas flow for said flushing operation.

18. The microlithographic projection exposure device according to claim 9, wherein said gas supply device contains an ozone source.

19. The microlithographic projection exposure device according to claim 16, wherein said UV light source is arranged in a focus of an ellipsoidal reflector, a light guide being arranged in another focus.

20. The microlithographic projection exposure device according to claim 9, wherein said optical element comprises a rod-shaped light guide, arranged within a reflector together with said second UV light source.